

Trash shredder's aim: chew up garbage, control pollution

by Jeff Trehwitt

An enclosed trash shredder being built at Buerkett's Landfill on Dirksen Parkway will reduce litter, remove metals and double the remaining life of the landfill, operator Merle Buerkett said Tuesday.

A second phase being contemplated would compact the trash into pellets, which could be sold as fuel, and possibly eliminate the need for a landfill, he said.

The new equipment will "shred trash down to a four to five-inch size," Buerkett said, and will remove ferrous metals from it as it is moved along on a conveyor belt to a nearby landfill for burial.

A magnet will be used to remove metal from debris in part of a process that will more than double the life of the landfill.

Buerkett hopes to begin the new operation by the end of February or early March. The building that will shelter the shredder equipment is under construction.

The structure will be large enough "for any type of truck to dump in," Buerkett said.

"Everything will be done inside," he said. "It'll stop the blowing of paper.

"I've been in this business since 1965, and I began thinking about this five years ago. It will (help) control pollution."

Tax incentives provided by the state and federal governments, and a guaranteed pollution control bond approved by the federal Small Business Administration, helped Buerkett afford the shredder.

He refers to the new equipment as "phase one" of his plans, and said he hopes he can get the backing necessary to begin "phase two" — the burning of garbage as fuel.

"We're hoping within another year to be able to use the burnable garbage as fuel for heat," he said. "If we can sell it as fuel rather than burying it in the landfill, we could possibly hold our price (down) on the stuff coming in, and there wouldn't be any more need for landfills."

SANGLAMON Co.
Spfld. / Buerkett



Merle Buerkett points to the building that will house the new pollution and garbage control machinery, including the shredder.

State Journal-Register/Barry Locher

other burnable debris account for about 80 percent of the items buried at a dump.

Trash can be compacted into small cubes, which burn well to produce heat, he said.

Buerkett, noting that the state Department of Transportation complex is located near his landfill, said he would like to sell converted debris to the city or state.

He has already given some sam-

Power, and, on Dec. 17, he will visit facilities in Arkansas "that use garbage for fuel and then turn around and sell the steam to factories."

He referred to an article in an Arkansas Municipal League publication as proof the system works.

The article describes a North Little Rock plant, which burns garbage in four 25-ton module units and produces steam that is sold to a large factory.

program eliminates landfill costs, reduces the use of oil, helps prevent industry lay-offs and saves enough natural gas to heat 1,500 homes a year.

North Little Rock has what it calls "a waste-to-energy" plant, which operates 24 hours a day, five days a week.

Garbage is burned at a temperature of 1,500 degrees. Gases from the incinerator rise to an upper

1,900 degree to prevent pollution emissions. Officials of the community say the gases that emerge "more than meet U.S. Environmental Protection Agency standards."

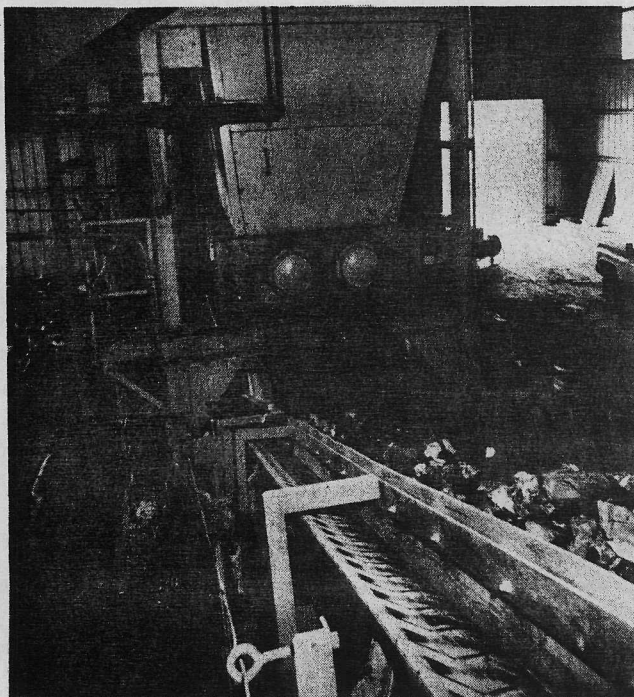
North Little Rock has had visitors from five countries and about two dozen states since its operation began Sept. 26, 1977.

Buerkett believes that a similarly beneficial program can be started in Springfield, and he is willing to begin one if he receives the neces-

Field Operations Casebook

By Christine Nagy

J.R. - F.C. - M.N.



EFFICIENT RESOURCE RECOVERY AT ILLINOIS WASTE DISPOSAL UNIT

Bigger is not necessarily better in resource recovery from solid wastes, according to Merle Buerkett, Springfield, IL. Buerkett is owner/operator of the M. Buerkett Landfill, serving the Sangamon County area in central Illinois with about 150,000 customers located within a 30-mile radius of the plant.

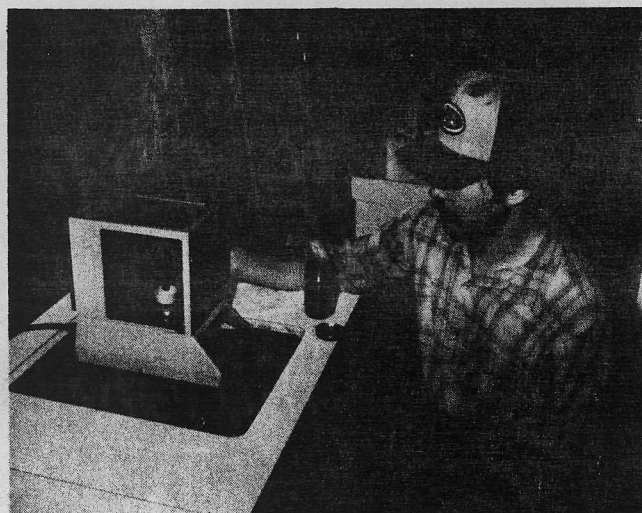
"We think we have installed the least costly, most efficient resource recovery system" Buerkett said, describing his Saturn Model 50 shredder and Mayfran conveyor combination. The low-speed, shear-type rotary shredder processes up to 400 tons of mixed refuse per day and is installed on only 12 inches of mesh reinforced concrete. Waste volume going into the landfill has already been reduced as much as four to one on some loads, but in the next year Buerkett expects to install an air classifier from Iowa Manufacturing Co. The resulting clean, combustible material will be sold as fuel and eventually may be compacted into cubes for even wider fuel uses.

The 600 hp shredder's low speed reduces noise, dust and flying debris compared to a hammermill-type unit. The explosions which occur with the hammermill type are almost eliminated. Materials like steel belted tires, engine blocks, and appliances that are a problem for the hammermill require no prior separation for the Saturn model. It uses less energy and is less costly to install. Three employees per shift operate the unit, and another shift is soon to be added. "Our operation is less vulnerable to shutdowns than the high-technology plants that rely on very large volume deliveries," says Buerkett.

The 250-ton/day plant that disposes of solid waste in the same area where it is generated and handles virtually every item hauled to it requires a relatively small investment, Buerkett maintains. "This is the optimum plant for the future," he says. Buerkett financed his plant with the assistance of the Illinois Environmental Facilities Financing Authority (IEFFA)

which makes financing available to small businesses in Illinois for pollution control equipment.

"IEFFA issues revenue bonds on behalf of several small businesses at a time," according to Ronald Bean, executive director. "The Authority lends the proceeds of the bond sales to the companies and repayment of the loan is guaranteed by the Small Business Administration. To encourage this type of action, the IRS exempts investors from federal income tax on the return from such bonds." For more information, circle 201 on the Reader Service Card.



MICROPROCESSOR BALANCES SPEED COAL TESTS

Sartorius microprocessor-based balances supplied by Brinkmann Instruments, Inc. have reduced the time needed for coal weight measurements by 75 percent at the inhouse laboratory of Keffler & Rose Coal Preparation Company. The balances are used in testing for ash, moisture, and Btu at K & R's 350 ton/hr facility in Minerva, OH.

Operation of the solid-state balances is completely automatic. Just touch the tare switch or zero switch to zero the readout (with or without a vessel or pan) and add the sample to the pan or vessel. The sample weight is displayed in a bright green digital readout in seconds.

Sartorius balances are BCD-compatible with a variety of plug-in accessories including data printers/programmers, keyboard programmers and programmable calculators. These attachments provide automatic calculations (including alphanumeric, mathematical and trig functions), hard copy records, and a wide variety of weighing programs.

The balances can provide calculations of mean or average weight; weight percentages; percent deviation; simultaneous weighing in grams, ounces or pounds; and counting instead of weighing. Conversion of balance readings or mathematical evaluation of weighing results by the operator are no longer necessary.

Features of the Sartorius balance include a reading stability indicator, overload protection and a built-in vibration filter. The balance is extremely rugged and can be carried from place to place if necessary. For more details, circle 202 on the Reader Service Card.

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